Figures 3A,B,C are views similar to Figures 2A,B,C of a third embodiment according to the invention; and

Figures 4A,B to 7A,B are views similar to Figures 2A and 2B of a fourth to seventh embodiment, respectively, of the device according to the invention.

In the various embodiments shown in the above mentioned figures, the same reference numerals have been used on like or corresponding parts.

Figures 1A-C shows a vehicle wheel 1 provided with a first embodiment of the device according to the invention. This device 2 comprises a belt 3 which is to encircle the tread 4 of the wheel with a certain clearance therebetween over at least a part of the portion of the belt 3 which is not located between the wheel and the road surface. This clearance results from the inner circumference of the belt being 4 - 10%, preferably 5 - 6% larger than the largest circumference of the wheel 1. The belt 3 may consist of a textile material, preferably made of a polymer. A woven textile of polyamide has turned out to be particularly suitable, combining high strength with very good adhesion to a snow covered surface. One such material is commercially available under the trade name Cordura 1000.

On the side of the belt 3 facing the tread of the wheel 4 its textile material may advantageously be coated with a suitable plastic, e.g. polyurethane rubber, in order to strengthen and stabilise the material and reduce the friction against the tread of the wheel.

Even though a woven textile has been found suitable as belt material, it will be understood that also other materials can turn out to be suitable, e.g. more or less stabilised felt materials. It will also be understood that the outer side of the belt may be provided with a friction increasing

coating. The device according to the invention can be made reversible, the belt on one side having a surface which is suitable for driving on snow, while the other side has a surface for better gripping ability on ice.

Furthermore, the device 2 is provided with an inner side portion 5 which in the embodiment shown consists of a lighter and more flexible textile material than the belt 3 and which is sewn or in another suitable way is attached to the belt 3 along one of its longitudinal edges. The inner side portion may on its inside advantageously be provided with a low friction coating, preferably silicon polymer, butadiene rubber, neoprene rubber, PVC or similar polymer. Such a low friction coating makes it easier to fit the device 2 in place on the wheel 1 during the mounting.

The free edge of the inner side portion 5 is provided with a longitudinal pocket 6, in which an elastic element 7 is placed, here in the form of a multi-thread rubber band covered by a sheathing spun of relatively smooth thread material. The purpose of the sheathing is, firstly, to reduce the stretchability of the rubber band and, secondly, to reduce the friction between the rubber band and the inside of the pocket 6. The low friction on this point is important for the unhindered adaptation of the rubber band in the pocket 6 when the rubber band is stretched during the fitting of the device onto the tire and for reducing the potentially destructive friction forces when the pocket with the rubber band is driven over by the wheel 1 during the last phase of the fitting of the device 2. (It will be understood that the spring shown in US 2,682,907 and its pocket easily will be damaged if it were to be driven over in such a way.)

From Figure 1A it appears that on its outer side the device 2 is provided with a fully covering side portion 8. It is also made of a partly coated textile material, e.g. of the type Cordura, but in a lighter quality than the belt 3.

The outer side portion is provided with two diamtrically extending orthogonal straps 9, which in addition to being attached to the outer side portion and possibly also the belt 3 at their ends, also are attached to each other and to the middle of the outer side portion 8. The straps 9 serve the purpose of facilitating removal of the device 2 after use and will, in addition, have a reinforcing effect. It will be understood that the straps 9 may be arranged in different numbers, e.g. three radial straps may be used. The straps may also advantageously be made of a polymer so that the entire device 2 will consist of materials that neither rust nor rot if it is stored in a wet condition.

In figures 2A-C there is shown a second exemplifying embodiment of a device according to the invention. The belt 3 and the inner side portion 5 are here made of one and the same piece of textile material. The elastic member 7 is constituted by a band which is woven, spun or knitted from a rubber elastic thread material and a substantially inelastic thread material, so that the latter thread material limits the extendability of the elastic member 7. The band can have a width of about 5 cm and be of a type which is used for suspenders or belts. The band is doubled and is in tensioned condition sewn to the free edge of the inner side portion 5. This avoids a pocket with a concealed rubber band that cannot be inspected for damage or wear.

In this case the outer side portion 8 has a relatively large central opening. However, the free edge 10 of the side portion 8 has a circumference that is less than 2.2 times the largest diameter of the wheel 1 for which the device is to be used. Considering that the tread 4 of the wheel is about 20% of the diameter of the wheel, an opening limited in this way will not be able to jump over the wheel to bring the device in its entirety on the inner side of the wheel. The free edge 10 can be reinforced in a suitable manner.